

## **SBI 3U- MEASURING LUNG VOLUME AND CAPACITY**

### **Part A: Using The Lung Volume Bags**

#### **1. TIDAL VOLUME (TV)**

Sit and breathe normally for 1 minute. Then inhale a normal relaxed breath and exhale normally (do not force air out) into the bag. Repeat two more times and then average the results.

Trial 1	Trial 2	Trial 3	Average

#### **2. EXPIRATORY RESERVE VOLUME (ERV)**

Stand up and breathe normally for 1 minute. After a normal expiration, place the tube in your mouth and forcibly remove all the EXTRA air that you can. Repeat two more times and then average the results.

Trial 1	Trial 2	Trial 3	Average

#### **3. VITAL CAPACITY(VC)**

Stand up and breathe normally for 1 minute. Now breathe in as deeply as possible. Place the tube in your mouth and exhale as hard and long as you can to try to empty all the air from your lungs. Repeat two more times and average the results.

Trial 1	Trial 2	Trial 3	Average

### **Questions (answer #1-4)**

1. Fill in the table below and account for any differences in your values to the expected average.

	My value (Litres)	Average for females (L)	Average for males (L)
Tidal volume			
Vital capacity			

2. The amount of air that remains in the lungs after forced exhalation is called the residual volume. What is the purpose of this air and why is it hard to measure?
3. What do you predict would happen if you measured your tidal volume immediately after exercise?
4. List 3 factors that would account for differences in lung volumes among the class.